

EchoPrime-B88

Audio DSP with Support 8X8



PRODUCT OVERVIEW

The **Resoundify EchoPrime-B88** is a high-performance Digital Signal Processor (DSP) equipped with an 8x8 input/output architecture, designed for crystal-clear audio management in a wide range of AV environments including conference rooms, educational spaces, auditoriums, and corporate installations. Powered by the robust BEIDOU DSP platform, it delivers professional-grade audio signal routing, processing, and mixing with exceptional reliability and clarity.

The EchoPrime-B88 is a next-generation digital audio matrix processor designed to deliver exceptional signal processing performance and routing flexibility for medium to large-scale AV integration projects. Powered by the BEIDOU DSP core, this processor is engineered to meet the dynamic demands of professional audio environments, including conference systems, educational networks, multi-room installations, and broadcast-grade setups.

KEY FEATURES

- Professional SHARC DSP Core:** Powered by ADI SHARC platform with semi-finished architecture for flexibility and high-performance processing.
- High-Quality Audio Processing:** 24-bit/48kHz audio resolution ensures crystal-clear sound quality across all channels.
- Intelligent Feedback Suppression:** Independent adaptive feedback suppression on each channel automatically eliminates unwanted noise.
- Auto Mixer & Gain Control:** Built-in Gain Sharing Auto Mixer, Automatic Gain Control (AGC), and Audio Ducking (Ducker) for seamless level balancing.
- Ambient Noise Compensation:** Real-time gain adjustment based on room noise levels ensures consistent and comfortable listening even in fluctuating environments.
- Comprehensive Audio Matrix:** Flexible mixing matrix with input level control, channel duplication, linking, and grouping.
- Expandable Control Options:** 8 configurable GPIOs (input/output/ADC), RS-232 & UDP support with assignable ports for central control systems.
- Multi-Platform Compatibility:** Supports both iOS and Windows OS with dual USB audio interface for recording and conferencing.

APPLICATIONS

- Boardrooms
- Classrooms
- Auditorium

RESOUNDIFY

TECHNICAL SPECIFICATIONS

System Specifications

Processor	ADI SHARC 21489@450 MHz SIMD
Raw Processing Capacity	500 MIPS, 6 GFLOPS, 2 GMACS
Sampling Rate	48 kHz ± 100 ppm
Frequency Response (A/D/A)	20 Hz - 20 kHz ± 0.5 dB
Dynamic Range (A/D/A)	110 dB (A-weighted)
THD + Noise	< -95 dB (22.4 kHz BW, unweighted); 1 kHz @ +17 dBu, 0 dB gain
Channel Separation (A/D/A)	110 dB @ 1 kHz, +24 dBu
Latency (A/D/A)	1.04 ms (input routed directly to output)
Delay Memory	174 mono seconds
Analog Control Inputs	0-3.3 VDC
Recommended External Control Potentiometer	10k Ohm, linear taper
Logic Outputs	Low (0 V) when active Pulled high (5 V) when inactive
Logic Output Maximum External Power Supply / Current Sinking	24 VDC / 50 mA
Logic Output Maximum Output Current	10 mA
RS-232 Accessory Serial I/O	57.6 kbps (default), 8 data bits, 1 stop bit, no parity, Straight-through wiring; pins 2, 3, 5 used
Ethernet Cable	Standard CAT5/6, max 100 m (328 ft)
Maximum Stored Presets	16 storable presets

Rear View

